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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/726,626	12/04/2003	Hideki Agari	R2184.0285/P285	5740

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DICKSTEIN SHAPIRO MORIN & OSHINSKY LLP  
2101 L Street, NW  
Washington, DC 20037

EXAMINER
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VO, NGUYEN THANH

ART UNIT	PAPER NUMBER
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2685

DATE MAILED: 03/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/726,626	AGARI ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Nguyen T. Vo	2685	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2, 6-8, 10, 14-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Hiraki (6,424,128, cited by examiner).

As to claim 1, Hiraki discloses in figure 6 an integrated circuit 100 for supplying power (see column 8 lines 13-16), comprising an IC chip 110 having a rectangular shape (see figure 6) and having a first edge (see the upper edge in figure 6) and a second edge (see the lower edge in figure 6) opposite the first edge; a switching regulator 120 implemented on said IC chip and having a driver transistor (see transistors 123-124) whose ON time of switching is controlled to adjust an output voltage of said switching regulator (see column 4 lines 16-23; column 6 lines 12-29); and a series regulator 150 implemented on said chip (see column 7 line 66 to column 8 line 1), wherein said driver transistor of said switching regulator positioned near first edge (see figure 6 which shows that the driver transistor 123-124 of said switching regulator positioned near the upper edge), and said series regulator positioned near the second edge (see figure 6 which shows said series regulator 150 positioned near the lower edge). Hiraki thus discloses all the claimed limitations.

As to claim 2, Hiraki discloses that the series regulator includes a driver transistor as claimed (see transistor 155 in figure 6; column 4 lines 23-37).

As to claims 6, 14, Hiraki discloses additional circuitry as claimed (see figure 6, circuitries 111, 113, 140).

As to claims 7-8, 15-16, see figure 6 of Hiraki.

As to claim 10, the rejection to claim 1 as set forth above is herein incorporated. In addition, Hiraki further discloses a cellular telephone having a RF circuit including a transceiver for radio communication (see figure 16; column 14 lines 20-32).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 3, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hiraki in view of Maruo (7,003,270, cited by examiner).

As to claims 3, 11, Hiraki does disclose that the integrated circuit 100 is used in a cellular telephone having a high frequency circuit (see figure 16). Hiraki, however, fails to disclose that the series regulator 150 supplies power to the high-frequency circuit as claimed. Maruo discloses using series regulator to supply power to a high-frequency circuit (see column 1 lines 10-25). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Maruo to Hiraki, in order to reduce power noise effect on the modulation accuracy because the series regulator generates only a small noise (as suggested by Maruo at column 1 lines 21-25).

6. Claims 4-5, 9, 12-13, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hiraki.

As to claims 4-5, 12-13, Hiraki fails to disclose that the switching regulator and series regulator receive a positive power supply through respective different pads as in claim 4, and a negative power supply through respective different pads as in claim 5. The examiner, however, takes Official Notice that using a positive power supply or a negative power supply are known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Hiraki as claimed, in order to have different ways of power supplying the cellular telephone circuitry in Hiraki.

As to claims 9, 17, Hiraki fails to disclose that the switching regulator functions as a DC-DC converter of a synchronous detection type as claimed. The examiner,

however, takes Official Notice that such a switching regulator is known in the art for the purpose of improving power efficiency. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Hiraki as claimed, in order to improve power efficiency.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ito (6,683,767) discloses incorporating both switching regulator and series regulator on an IC chip (see figure 28).

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nguyen T. Vo whose telephone number is (571) 272-7901. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on (571)272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nguyen Vo

Nguyen Vo  
3-6-2006

**NGUYENT.VO**  
**PRIMARY EXAMINER**